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ABSTRACT

Educational activities sponsored by business, industry, and various levels of government, including the military (BIGM), in California are briefly reported. Much that is being offered through courses and services by postsecondary educational institutions is also being provided through BIGM training activities, and there are areas of cooperation between BIGM and schools. BIGM commitment to educational activity on the national level is reflected in an average annual expenditure of over $160 per employee, and in the development of educational facilities by over one-half of the nation's large companies. The focus of educational programming offered by BIGM concern the following broad categories: management education; interpersonal relations education; supervisory skills education and training; specific skills training, including business machines; organizational development education, including management by objectives; orientation education to an industry, culture, or location; and personal development education that is not directly job-related. The current educational climate, which includes external degree programs and field work, appears congenial to the exploration of more direct ties between BIGM and postsecondary education. A data base that describes the educational objectives and amount of training activity offered by BIGM in California is needed. (SW)

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A STAFF SURVEY OF FORMAL EDUCATION AND TRAINING PROGRAMS SPONSORED IN CALIFORNIA BY BUSINESS, INDUSTRY, GOVERNMENT AND THE MILITARY

PART OF A SERIES OF REPORTS ON LIFELONG LEARNING

CALIFORNIA POSTSECONDARY EDUCATION COMMISSION
1978

U S DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
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FOREWORD

The report that follows provides a brief survey of the wide range of educational activities sponsored by business, industry, and various levels of government, including the military--or "BIGM"--in California. a/ It is part of a series of reports on policies and programs in California bearing on opportunities for part-time study or lifelong learning beyond the twelfth grade.

Unlike public segments of postsecondary education, which have somewhat centralized administrative offices and collect data as an aspect of on-going administrative responsibility, "BIGM" is quite diverse and has no composite data sources.

The best sources of information about BIGM educational activity tend to be nationally and regionally focused studies. Therefore, much of the knowledge about BIGM in California is inferential. A thorough, broad-based effort to collect definitive BIGM data which apply exclusively to California probably would be extremely costly and laborious. However, it does seem feasible to sample various elements of BIGM to derive data which could prove useful for statewide planning purposes by State agencies and other interested parties.

Initial research for this report benefited greatly from help provided by several members of the American Society for Training and Development.

I. Introduction

In the early 1900s, only about 6 percent of all seventeen-year-olds graduated from high school in the U.S., and still fewer went on to college. However, seventy years later, 75 percent of the seventeen-year-olds were high school graduates, and of these, about half continued on to college. 1/ The increasingly broader base of participation and the growing prominence of higher education came about as a result of a variety of societal needs and pressures. These included:

- the period of the "cold war" with its emphasis on further education as a national resource;
- an ever-changing, more complex, technologically oriented society, creating demand for "knowledge workers" - those who could learn and adapt to new complicated work assignments; 2/
- wide recognition of the economic and social advantages associated with a college education;
- special governmental funding through the G.I. bill and various federal and state financial aid policies enabling many first-generation college students to enter higher education;
- a far-ranging attempt to remedy social injustice, resulting in special emphasis on educational opportunity through universal access to college; and
- increasing use of academic degrees and credits by employers as indicators of job competence.

In the past several years, a variety of factors have acted together to bring about a more expansive societal view of education beyond the compulsory K-12 years. The Higher Education Amendments of 1972 helped to bring this about through the establishment of statewide planning commissions. These commissions were charged with the responsibility of planning for the best use of resources throughout a state's entire postsecondary education establishment, and not only its nonprofit colleges and universities. Substantive elements which combined to direct public attention to postsecondary education, a broader realm not limited to higher education, included:

- research indicating that substantial numbers of college students would prefer not to be attending college;

- an oversupply of college graduates in the job market;
- judicial decisions which struck down the arbitrary use of diplomas or degrees as fixed measures of job readiness and as prerequisite for employment;
- college curricula perceived as unresponsive to the needs of today's job market;
- recognition by elements in business, industry, government, and the military that the needed training often could be accomplished "in-house" in a more economical, flexible, and controlled manner than through institutions of higher education;
- the increasing costs of colleges;
- competing demands for public funds from such areas as health and welfare.

For many people, these developments have led to much more careful consideration among the various alternatives for education and training beyond high school. 3/

Recent surveys of adult participation in postsecondary education on a national level have indicated that from 10 percent to as many as 31 percent of those not involved as full-time students had participated in some form of formal instructional program during the previous year. 4/ The areas of learning pursued are shown in Table 1 and sponsoring agencies are listed in Table 2.

Business, industry, government, and the military (BIGM) have committed considerable resources to educational activities and this commitment seems to be growing. Since, by definition, BIGM participants in postsecondary education are employees primarily and students secondarily, BIGM educational activity is essentially part-time in nature. Carnegie Commission estimates of 1970 enrollments, and projections for 1980, indicate that BIGM participation in postsecondary education for this decade may be more than double the level of student participation in activities sponsored by institutions of higher education. (Table 3.)

TABLE 1

ESTIMATES OF ADULT ENROLLMENT FOR ALL TYPES OF FORMAL INSTRUCTION, BY SUBJECT AREAS STUDIED
(From one nationwide survey)

Areas of Learning	Number (in millions)	Percentage*
Avocation and Recreation	13.4	41.8
Vocational Subjects (excluding agriculture)	11.2	35.0
General Education	8.1	25.2
Religious Studies	4.4	13,8
Home and Family Life	4.3	13.3
Personal Development	3.7	11.4
Public Affairs	2.1	6.4
Agriculture	1.1	3.4

* Percentages add to more than 150 because many persons engaged in more than one area of learning.

Source: Toward a Learning Society, page 29.

TABLE 2

SPONSORS OF ADULT LEARNING ACTIVITY

With Estimated Level of Participation
(Nationwide)

Sponsor	Number of Learners (in millions)	Percentage of Learners
Academic Institutions, such as high schools and colleges	7.4	22.9
Industry and Employers	5.9	18.4
Self-study	5.4	16.9
Community Organizations, such as YMCA	2.8	8.7
Religious Institutions	2.0	6.3
Government Agencies	1.8	5.5
Proprietary and Correspondence Schools	1.7	5.3
Private Tutors	1.4	4.4
Museums, Galleries, Performing Arts Studios	0.7	2.3
Recreation and Sports Groups	0.7	2.3
Other Organizations or No Response	2.2	7.0

Source: Toward a Learning Society, page 20

TABLE 3

ESTIMATED AND PROJECTED NUMBER OF PROGRAM ENROLLMENTS BEYOND REGULAR ELEMENTARY AND SECONDARY EDUCATION, BY INSTITUTION TYPE 1970-1980 (NUMBERS IN THOUSANDS)**

Source	1970	1980	Percentage Change, 1970-1980
Total, regular and adults*	73,800	108,200	47
Higher Education			
1. Colleges and Universities (full-time degree credit)	8,900	11,500	29
2. Colleges and Universities (part-time degree credit and non-degree credit)	6,300	9,800	56
Further Education			
1. Elementary and Secondary Schools	3,900	9,000	131
2. Other Public Postsecondary Programs	1,000	2,500	150
3. Specialty Schools			
a. Proprietary (except correspondence)	3,800	8,000	111
b. Correspondence Schools	2,000	3,500	75
4. Employers and Associations (except armed forces)			
a. Apprenticeships (registered)	400	600	50
b. Apprenticeships (nonregistered)	200	300	50
c. Safety Instruction	15,700	17,000	8
d. Job Orientation	7,400	9,000	22

(Table continued next page)

TABLE 3
(Continued)

Source	1970	1980	Percentage Change, 1970-1980
e. Other Organized Instruction	8,100	14,000	73
5. Armed Forces			
a. Initial Training	650	600	-8
b. Correspondence	1,300	1,300	0
c. Other Organized Instruction	1,100	1,400	27
6. Prisons	200	200	0
7. Other Government Programs			
a. Work Incentive Program, Job Corps, Neighborhood Youth Corps (out-of-school)	250	350	40
b. Agricultural Extension and Other	500	500	0
8. Unions	100	150	50
9. Other Organized Programs (e.g., TV, churches and synagogues, community organizations, libraries and museums, etc.)	10,000	15,000	50
10. Tutors	2,000	3,500	75

* May overstate the number of separate persons by a factor of approximately 1.3 because of multiple program enrollments during the year.

** Estimated number of persons who participated at some time during the year; excludes informal (i.e., unorganized) learning at home, on the job, or elsewhere, and exclusively self-study arrangements.

Source: Toward a Learning Society, pages 46, 47.

II. Business and Industry

In a national study of major United States business and industrial firms in 1975, Peter Peterfreund determined that the majority of companies have increased their educational activities between 1970 and 1975, and that "two-thirds anticipate they'll be doing more in 1980 than they are now." 5/ Of the companies surveyed, the training budgets ranged from nothing to approximately $20,000,000. On a per-employee basis, companies spent an average of $161 per employee annually. "But the average masks a wide distribution; a third spent less than $50 in identifiable . . . costs . . . another third spent between $50 and $150, the balance distributed all the way from $175 up to $1,047." 6/

Another index of commitment to educational activity explored in this study was the extent to which company facilities were utilized for employee education. Peterfreund found that:

- Twenty-five percent of the companies have one or more separate buildings or locations whose sole use is for education.
- Thirty percent more have dedicated educational space, but not in buildings specifically built or maintained for that purpose.
- About forty-two percent utilize regular space and non-company facilities on an ad hoc basis.

A variety of factors were identified as stimulating an active program of training. Those most commonly noted were:

- A growing organization.
- A high quotient of advanced technology characterizing the firm.
- Changes of mission or change in product mix.
- Organizational demands for positions requiring a high degree of independence in working by employees.
- Changing legal requirements.
- A tight labor market in special fields.
- Schools and/or academic institutions viewed as having inadequate resources or doing an inadequate job in a specific area.

The author of the study concluded that the dominant trend in business and industry was:

> . . . away from a programmatic approach with stand-alone courses and episodic activity toward T/E/D/ [training/education/development] as a process, as a rationalized system. Continuing education, in turn, becomes more closely integrated with other corporate objectives and planning. In this process, the individual becomes the focus. Less is approached on a universal basis; far more emphasis is given to customizing, individual options, self-motivation. 7/

The findings of Peterfreund's investigation regarding business and industry policy toward educational programming are summarized in Figure 1.

A study of training programs in forty-five major California firms was conducted in 1969 by the Automobile Club of Southern California. These companies represented five primary categories of business and industry: (1) finance and banking, (2) manufacturing and consumer services, (3) utilities, (4) aerospace and research services, and (5) insurance. The companies had headquarters or major operations located either in Los Angeles or San Francisco, and employed over 281,000 people. About 25 percent of the companies also had operations outside of the State. This survey indicated a heavy commitment to training employees. Some of the indices of this commitment are shown on the following pages.

Most of the training and educational programs conducted by the companies who participated in this survey utilized "in-house" staff. Approximately 74 percent of the program sources were categorized as "in-house," followed in order by consultants, 11 percent; institutions of higher education, 9 percent; and professional associations. 8/ Three firms reported that they had no official training staff. While the ratio of training staff to all other employees varied considerably among the five study categories (from .21 to .68), the average ratio was .40. 9/

The companies generally had established tuition assistance programs (approximately 80 percent of the firms in this study), and most utilized videotape recorders/closed circuit television as standard procedure (almost two-thirds of the firms). No data were compiled on the total or proportionate employee contributions to tuition-aid programs by the firms; a national study of employee tuition-aid plans published in 1970, however, noted a total investment of nearly $17 million by the 162 companies studied. In 1967, the average payment by the company per participating employee was $120.65.

The median participation rate of employees was about 4.5 percent. 10/ The National Institute of Education has recently awarded a contract to the National Manpower Institute in Washington, D.C., to study employer-funded education programs.

> The object of the study is to develop an up-to-date list and analysis of existing tuition aid plans established under collective bargaining agreements, to increase understanding of participation in these plans, to develop a standard for measuring whether participation rates are "low," "normal," or "optimum" from different perspectives, and to experiment with ways to increase participation rates.
>
> NIE is especially curious about participation rates because studies have shown that only about 5.3 percent of American workers take advantage of the millions of dollars in private sector education and training aid. For blue collar workers, the participation rate is about one percent. 11/

Some companies have considerably higher participation rates than others. One midwestern company instituted a very liberal program in 1974. As a result, the participation rate among its 7,000 employees increased from less than 1 percent to 34 percent in the first year of the program. Over 200 firms have initiated contact with the company for details of the plan. This program offered by Kimberly-Clark Corporation in Wisconsin

> . . . covers the cultural and avocational, as well as traditional academic pursuits of employees and their immediate families. But it represents more than a philanthropic effort . . .. It should help create and maintain the kind of knowledgeable, skilled, and motivated workforce needed to meet corporate objectives in the competitive climate of years ahead.
>
> Part one of the three-part plan centers on <u>employee-self-development</u> and supports any type of study program--whether job-related or not--offered by an accredited or company-approved institution. Employees receive an annual allotment to a personal bank account, which encourages participation, as well as careful planning of learning activities . . ..
>
> A second part of the plan provides a fund for <u>educational pursuits of family members</u> or for supplementing the employee's education. An income-earning account is credited annually with twenty-five percent of the personal allotment. In addition, the company matches a percentage of the amount an employee contributes to the account.

FIGURE 1

BUSINESS AND INDUSTRY POLICY
TOWARD EDUCATIONAL PROGRAMMING

Option 1		Option 2	Comments
• To "buy brains," or hire skills (to depend on the schools, or other employers to develop the people needed).	vs.	Developing, enriching whatever personnel are available; to promote from within.	On balance, most lean toward Option No. 2.
• To formalize programs, be highly organized and structured.	vs.	Less formal, almost ad hoc.	The tendancy is toward No. 2.
• To demand, expect, affirmatively encourage education.	vs.	To tolerate it, prohibit it.	More opt for the first choice.
• To view education as the company's problem, responsibility.	vs.	To view it as the individual's concern.	More fall into category No. 1.
• To see education as an integral part of the job, and thus a working-hours proposition.	vs.	To view it as an off-on-the-side, after-hours activity.	Most lean toward the former, many split the time, few push it to after-hours only.
• To do it in-house.	vs.	External activities, only.	Most do both, with over 80% of the formal activity in-house.
• To view the needs as universal, regardless of level or job classification.	vs.	To limit development opportunities to one employee segment, or another.	Few exclude any employee segment, though many concentrate on management and supervisory personnel in formal programs (leaving craft and clerical training more on on-the-job training).

Source: Peterfreund, Education in Industry - Today and in the Future, 1975; pg. 36.

FIGURE 2

AVERAGE ANNUAL FORMAL TRAINING TIME BY
OCCUPATIONAL CATEGORY (45 CALIFORNIA COMPANIES)*
(1968 data)

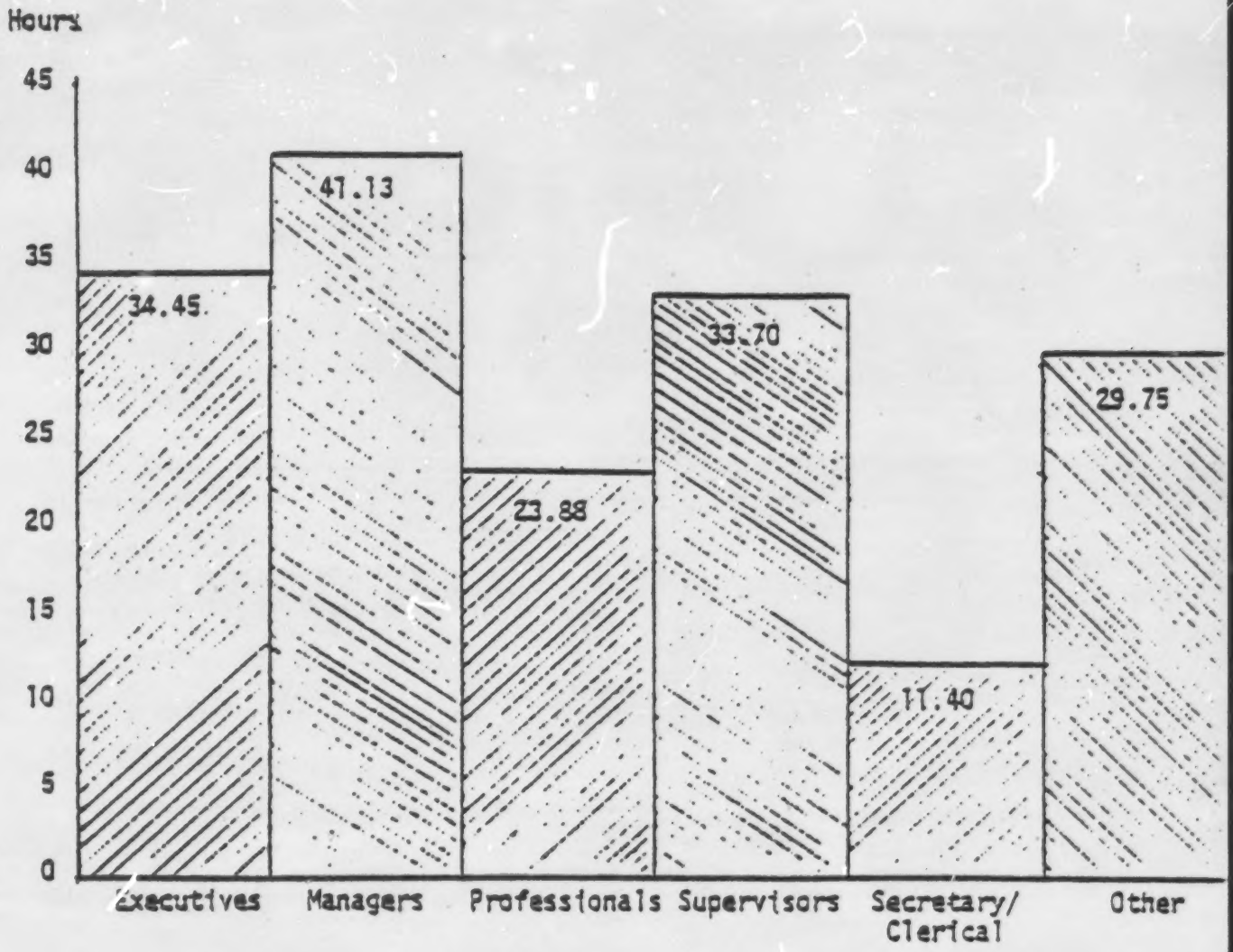
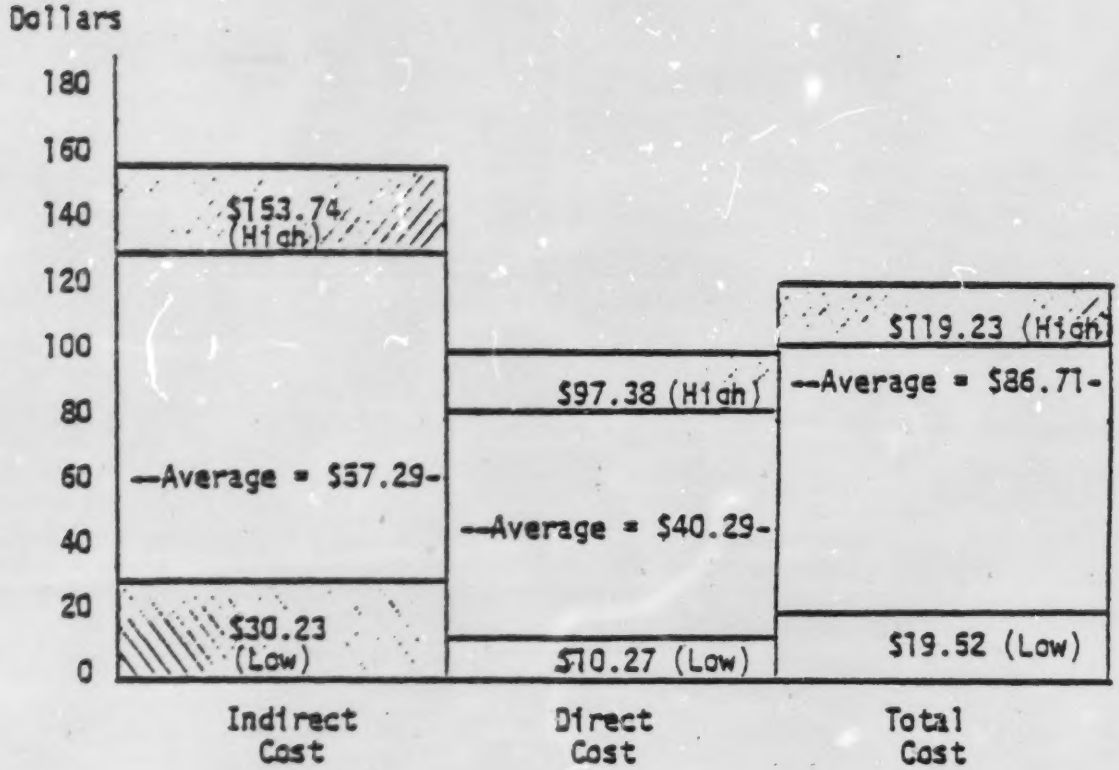


*Figure 2 was derived from the data presented on page 11 of Training and Development Survey with Primary Focus on California, 1969.

FIGURE 3

ANNUAL RANGE AND AVERAGE COST PER EMPLOYEE
FOR COMPANY TRAINING (45 CALIFORNIA COMPANIES)*
(1968 data)



Indirect Cost = "Costs of production time due to training, transit, and expense costs of participants, and other overhead costs."

Direct Cost = "Costs immediately associated with a firm's training program salaries for training personnel, printing costs, facilities and equipment expenses, consultant fees, tuition, etc."

*Figure 3 was derived from the data presented in Table XII on page 12 of Training and Development Survey with Primary Focus on California, 1969.

> The third part allows "employees who have demonstrated a high level of performance" to take from two weeks to a year with pay (and sometimes additional aid) for special study that "clearly relates to corporate objectives." 12/

Such an extensive and liberal program is far from typical, but it does provide an example of the corporate recognition of the need to ensure that employees participate in a process of renewal.

The Postsecondary Alternatives study argues that postsecondary education in California must respond not only to individual demands and interests, but also to the needs of the State's advanced industrial economy and culture as well.

In California's economy, the preponderance of white-collar and service employment is more apparent than in the rest of the country:

> By 1950, California's proportion of white-collar workers surpassed its blue-collar counterpart--six years before it did in the nation as a whole (LaPorte and Abrams, 1974).
>
> In 1970, sixty-nine percent of all employees in California were working in the service sector, compared with only sixty-one percent nationally. Only twenty-seven percent were employed in manufacturing, and only four percent were engaged in agriculture and mining.
>
> Even in its manufacturing sector, California is unique among the states. With its concentration of electronic and aerospace industries, seventeen percent of its manufacturing employees are professionals, such as engineers, accountants, scientists, and technicians, compared to ten percent nationally.
>
> In the service sector, California also has a disproportionate concentration of professional expertise, with its leadership in communications, research and the arts. 13/

Given this kind of a knowledge-based occupational structure, periodic retraining is viewed as a necessity, not a luxury. To meet the training needs of the over 8,000,000 people employed in California (excluding the military), Salner estimated 33,000 14/ individuals are employed as full-time instructors. 15/

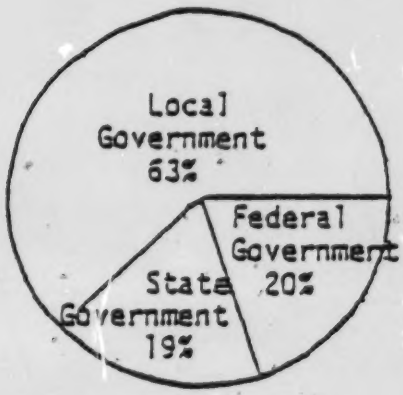
III. Government

In recent years California has emerged as a prototype of the advanced industrial society. While this has been occurring, the importance and interdependence of different levels of government with each

other and with other social institutions has become increasingly apparent. 16/ Even in terms of sheer numbers, governmental employees represent an important aspect of California society. Almost one in five in the State's labor force work for either federal, State, or local government agencies. 17/ Governmental employees number almost 1.5 million in California. 18/ Of those, most are employed by local government, as shown in Figure 4.

FIGURE 4

PERCENTAGE OF GOVERNMENTAL EMPLOYEES EMPLOYED BY LEVEL IN CALIFORNIA 19/



The most recent report on federal government training activities shows that the emphasis is on formal classroom programs of eight hours or longer. The objectives of these programs are based upon the following general statement:

> Training is used to provide employees with the skills, knowledges, and abilities:
>
> 1. to improve performance of current duties;
> 2. to anticipate future program and staffing needs;
> 3. to adopt new technology, missions, or programs;
> 4. to keep abreast of technological changes and to maintain proficiency in specialization; and
> 5. to develop talents not readily available. 20/

This report includes only the first three quarters of the fiscal year; in the last report covering a full year, it was noted that

about 955,000 federal employees participated in government sponsored programs. 21/ "Of this number, nineteen percent were trained in various school, college, and university programs, but eighty-one percent were trained either in programs designed by individual agencies or in interagency programs . . .." 22/

About thirty-five percent of the civilian federal employees in California participate in some form of training program annually. 23/ "Total federal expenditure for training, exclusive of employee salaries, was approximately $10.5 million in California for the Fiscal Year 1973." 24/

The U.S. Civil Service Commission operates the San Francisco Regional Training Center, which provides training support to all three levels of government in California, Nevada, Arizona, and Hawaii. For Fiscal Year 1976, it was projected that 21,500 federal and 3,150 state and local employees from these four states would be served through Center activities. 25/

Courses are offered in:

General Management

Personnel Management

Management Sciences, including:

-Quantitative and Analytical

-Financial Management

-Computer Sciences

-Environmental/Engineering

Communications and Office Skills 26/

In California, the Development Division of the State Personnel Board is charged with the responsibility for a variety of training activities which support the many departments of State government. These activities include:

- Management of a training facility and equipment.
- Management of several different levels of training programs for executive, management, supervisory, journeyman, and entry/trainee staffs.
- Delivery of contract services for the purpose of
  - -Affirmative Action program development
  - -Designing, modifying, or implementing training systems
  - -Providing specific tailor-made programs
- Cooperation with the twelve Regional Training Centers located throughout the State.
- Coordination of the On-site College program through which local colleges provide courses to State workers in Sacramento at various State offices. 27/

The individual State agencies are actively involved in providing educational programs for their own personnel. In the latest available agency reports to the Personnel Development Division, 191,700 employees were reported to have participated in "in-house" training activities, and $1,056,819 was expended in career-related, agency-supported education in outside organizations. 28/ The previous year, (Fiscal Year 1973-74) training was generated for 258,390 employees, and the State contribution to out-service educational activity was about $945,000. 29/ Although composite figures for training participation and financial investment by local governments are not available, one index of the wide range of activity at this level is the existence of twelve Regional Training Centers. The Centers are located in Chico, Auburn, Santa Rosa, Fairfield, Oakland, Santa Clara, Salinas, Fresno, San Bernardino, Santa Ana, Redondo Beach, and San Diego. They serve county and city governments, and derive support from tuition charged for their various programs. The programs offered are similar to those provided by the U.S. Civil Service Commission and by the State Personnel Board.

In 1975, the International City Management Association conducted a study of training activities by municipal governments in the United States in all cities of 10,000 or more population. 30/ Although it is not possible to isolate the data that apply exclusively to California, the survey was quite thorough and provides insight into municipal training programs in general. Some of the data have been analyzed by region. 31/ It was found that two-thirds of the cities

across the United States provided training programs, while over 90 percent of the western cities offered such programs. 32/

The most common types of training provided were specific skill development and on-the-job training, supervisory training, personal development, general orientation to the job, and interpersonal relations. (See Table 4.)

When an external source is utilized for training purposes, most commonly it is a university-sponsored program, followed in order by State programs and private consultants. In fact, 62 percent (358 of 573) of the municipalities responding have cooperative arrangements with colleges and universities for training purposes. 33/ (See Table 5.)

In 1972, the League of California Cities contracted with the National Training and Development Service for State and Local Government to conduct a training-needs assessment of California city governments. 34/ As a result of this survey, the League initiated the Municipal Training Service. This program, begun in 1975, has four primary functions:

1. Acting as a clearinghouse for training and development information. Information is compiled on training and continuing education resources and programs.

2. Informing cities of training innovations and opportunities of interest and value to them. A bi-monthly newsletter is published with information on recent training developments, upcoming programs, and training projects in cities around the State.

3. Conducting training and other education programs through the League, in addition to improving existing League programs, new programs are conducted covering topics in which cities identify a need.

4. Assisting in assessing training and continuing education needs in cities in conjunction with the other services of the League, assistance is provided individual cities in assessing the training and individual development needs of their personnel. 35/

The development of the Municipal Training Service has apparently facilitated the involvement of the League with the Regional Training Centers. These seem to provide an appropriate and responsive mechanism to fulfill the needs of local governments.

The Government Education Center, located in Los Angeles, also has the potential to provide needed educational services to municipalities

TABLE 4

TRAINING PROGRAMS CITIES HAVE PROVIDED IN THE LAST TWO YEARS AND EMPLOYEE CATEGORIES FOR WHICH PROGRAMS HAVE BEEN PROVIDED

Programs	Cities Providing Programs		Employee Categories													
			Manager		Assistant Manager		Department Heads/Middle Management		Other Management, Professional, Or Technical Personnel		First-Line Supervisors		Clerical Personnel		Line Personnel	
	No. (A)	%[1]	No.	% of (A)	No.	% of (A)	No.	% of (A)	No.	% of (A)	No.	% of (A)	No.	% of (A)	No.	% of (A)
Orientation for new employees	521	63	175	34	189	36	306	59	316	61	347	67	373	72	435	83
On-the-job training and specific skill development	752	90	161	21	177	24	331	44	306	51	436	58	461	61	582	77
Personnel development programs	572	69	296	52	278	49	470	82	317	55	253	44	127	22	97	17
Supervisory training and development	657	79	149	23	163	25	435	66	340	52	473	72	60	9	66	10
Interpersonal relations	336	40	173	51	160	48	266	79	186	55	177	53	81	24	71	21
Blake-Mouton Grid training	60	7	32	53	23	38	38	63	18	30	10	17	2	3	2	3
Team building	265	31	163	64	141	55	220	86	111	44	80	31	18	7	29	11

[1]Based on 833 respondents.

SOURCE: Brown. (1975). pp. 5.

TABLE 5

TRAINING DELIVERY RESOURCES
(U.S., 1975)

Training Resources	No. of Cities Reporting	
	No.	%
Total, all cities	849	100
ICMA in-service training courses	258	30
National Training and Development Service (NTDS)	88	10
American Management Association (AMA)	94	11
American Society for Training and Development (ASTD)	53	6
National Training Laboratories (NTL)	12	1
Union-Sponsored Training	43	5
University-Sponsored Training	618	73
Employee Exchange Program	60	7
Seminars and Conferences	775	91
State Programs	511	60
Private Consultants	294	35
Other	206	24

[1]Percentages, when totaled, exceed 100%, since many respondents indicated more than one resource.

SOURCE: Brown, pg. 2.

in the greater Los Angeles area. In the two-year life of this Center, however, about 70 percent of its activity was derived from the federal agencies in Los Angeles. Originally, the Center was a joint project of the California State University and Colleges, the Los Angeles Community College District, independent institutions in the area, and governmental agencies. It has evolved into a part of Los Angeles Community College District's organizational structure and its future role is unclear at this time.

IV. Military

For a long time, the armed forces have provided their members with a broad spectrum of educational services. The educational staff structure includes a network of approximately 2,000 combined education and testing centers. 36/ Today, approximately one of every six members of the armed forces is participating in training and/or education as a student, instructor, or in some type of supporting role. Total funding for training activities in Fiscal Year 1976 was almost $7 billion. 37/

Unquestionably, a great number of individuals join the military services for the educational opportunities provided both during the period of enlistment, and for the educational assistance available through G.I. benefits after being discharged. "If some projections of manpower needs and expectations of the military for volunteers are met, as many as a third of the male high school graduates of the country may receive their introduction to postsecondary education in this way." 38/

There are two broad categories of postsecondary education within the military: (1) professional military training, which is directly related to performance as a member of the armed forces; and (2) voluntary education, which allows the individual to pursue personally determined objectives. The Department of Defense has subdivided professional military training into five different types: (1) recruit training, (2) officer acquisition (service academies, ROTC, Officer Candidate Schools), (3) flight training, (4) specialized skill training, and (5) professional development education. Specialized skill training refers to such programs as automotive mechanics, security specialist, and electricity and electronics. Professional development education is concerned with broader educational objectives and is centered around such subjects as military science, engineering, and management. Most of the programs in this category are for officers. Specialized skill training and professional development education are the two aspects of military instruction which most closely correspond to the segments of postsecondary education within California. Slightly more than 11 percent of all military specialized skill training in the United States is conducted in California, while about 20 percent of all

military professional development education occurs in this State. 39/

About 575,000 military personnel per year participate on a part-time basis in voluntary education programs. This costs the Department of Defense about $52 million per year. About one-half of this amount goes for tuition assistance for students, mostly at the postsecondary level, in programs operated by civilian institutions on or near military installations. (Students may be reimbursed up to 75 percent of tuition costs.) About 25 percent of this annual expenditure supports courses and services offered by educational centers on military bases to meet special needs. Examples include noncredit courses to sharpen skills and refresher courses to prepare for promotion examinations. The balance of the $52 million goes for administrative costs and civilian staff salaries. 40/.

Another educational stimulus for service personnel is the opportunity to earn academic credit for certain service-related training experience. The Commission on Educational Credit produces an annual "guide" with recommendations for the award of academic credit, based on completion of certain military training, for degree programs and technical and vocational programs at the nation's institutions of postsecondary education. The Commission is a division of the American Council on Education and is the successor agency to the Commission on the Accreditation of Service Experiences (CASE) established in 1945.

In 1973, discussions between the Department of Defense and the American Association of Community and Junior Colleges resulted in the creation of Servicemen's Opportunity College (SOC), a group of institutions around the country which agreed to work together to meet the unique needs of a highly mobile, sometimes physically isolated military community. Later, the American Association of State Colleges and Universities became involved, and four-year institutions also became a part of SOC. Today, approximately 250 independent and publicly supported colleges and universities make up the Servicemen's Opportunity College network. Thses institutions have agreed to make a special effort to meet the unique needs of the military through such policy and program commitments as: liberal admissions policies, flexible course scheduling, liberal allowance of credit for military training, flexible residency requirements, credit for United States Armed Forces Institute correspondence courses, convenient and appropriate counseling services, and the opportunity for completing a major portion of lower division work through nontraditional procedures. In some cases, upper division requirements may be met largely through nontraditional means, to the extent such modes may be available or appropriate. 41/

In California, twenty-four Community Colleges and one independent two-year institution, along with five independent four-year institutions, participate in SOC.

The several branches of the military also have a variety of educational programs unique to their particular services. For example, the Army has a program designated Army Help for Education and Development (AHEAD). The program provides for liaison and agreements among postsecondary institutions, allowing an enlistee to identify with a hometown school, but take courses anywhere in the world while serving in the Army, then complete the program and graduate from the hometown school. 42/ The Navy's principal voluntary education program is called Navy Campus for Achievement(NCFA). This system makes use of a network of professional civilian education specialists who serve as advisors. One of the programs operated through NCFA is the Program for Afloat College Education (PACE) which provides formal educational opportunities to those at sea. Another aspect of the program is a specially designed certificate and degree program in cooperation with 18 two- and four-year institutions located in 44 areas near large naval installations. 43/

In California, the Navy has made it possible for many different institutions to hold classes on base. In 1976, sixteen Community Colleges, three compuses of the State University and Colleges, and two campuses of the University of California operated on naval installations in California. In addition, eight independent, four-year institutions and two out-of-state, four-year institutions operated at these installations. 44/ The independent institutions and the community colleges have been very active in providing programs to naval personnel, far more so than either the State University or the University. Two community colleges even offer courses outside the continental United States: Los Angeles Community College offers programs at fifteen locations in Hawaii, Okinawa, Japan, Korea, the Philippines, and Taiwan; Barstow Community College offers courses in Hawaii and in Japan. 45/ Chapman College, an independent institution, has received the PACE contract for classes on ships at sea in the Pacific area (excluding Hawaii) for the past four years, and has been awarded the contract for next year as well, with an option for a three-year renewal by the Navy. A subdivision within the PACE program calls for a small prototype program in vocational/technical education. This contract was awarded to an out-of-state institution. Three California community colleges also bid for this contract.

Composite information on the educational activities of the Air Force and the Army in California is not available since each installation operates autonomously. A preliminary sampling of several of the installations indicates a level and range of activity similar to that of the Navy.

Another major effort of the Department of Defense to provide for general educational opportunity is the Defense Activity for Non-traditional Educational Support (DANTES). This is a center for coordinating and supporting a variety of nontraditional and inde-

pendent-study opportunities. These include such activities as a high school equivalency testing program, coordination of the College Level Examination Program (CLEP), and correspondence courses. 46/ It is estimated that approximately 360,000 military personnel have not completed high school, while another 180,000 could benefit from remedial education to assist them in pursuing further educational and career goals. Until November 1976, a program called Predischarge Education Program (PREP) was in effect. It provided course work for high school completion or to overcome educational deficiency. Eligibility for the program began after six months of active duty and participation was not charged against regular G.I. benefits. Up to two-thirds of the cost of the program was borne by the government. 47/ The Armed Forces may resume this program in future by administrative reallocation of resources.

V. Linkages Between Postsecondary Institutions and Non-Educational Organizations and Activities

In a recent book on experiential learning, the Director of the Fund for the Improvement of Postsecondary Education, Dr. Virginia Smith, rather dramatically observed that much learning of great value occurs outside of formal schooling. In her view, institutions should take this into account and award appropriate credit for experiential learning. 48/ Smith develops a parable which invites the reader to imagine himself as an administrative officer at a postsecondary education institution at which a woman in her mid-sixties presents herself seeking credit for her life experiences. The woman brings a portfolio of reflections written about the experiences and a collection of commendations from a wide variety of sources. Her experience includes:

- teaching experience at a private girl's school.
- helping to found a boy's reform school.
- serving as a United States delegate to an international organization.
- helping to draft an important international convenant.
- extensively visiting wounded servicemen and acting as an official in the ambulance corps; investigating the conditions of and promoting improvements for the disadvantaged and institutionalized.
- delivering more than one thousand lectures on a variety of topics related to her concerns.

- authoring three books and for several years writing syndicated daily newspaper columns.

- receiving numerous awards by institutions and organizations throughout the world.

Dr. Smith cites possible assessment outcomes, and the great disparity between institutions is rather striking:

> At Metropolitan State University (Minn.), the lady applicant could receive a BA without further educational activity if an assessment team found her experience adequate; but before she were admitted to MSU, she would have to complete the first two years of college or its equivalent.
>
> At City University of New York, in a two-year college, she could use her prior life experience to earn only about fifteen credits toward an AA degree.
>
> At Empire State College (New York) she could satisfy all requirements for a BA except for a six-months residency.
>
> Many other institutions would award only one year of credit, still other would grant her no credit at all.

"This brief rundown suggests some confusing and perhaps arbitrary forces at work in American higher education. Nevertheless, substantial progress has been made in the past ten years. For when she died, a little more than a decade ago, my mystery woman, whom I am sure you have long since recognized as Eleanor Roosevelt, had received for her social contributions thirty-five honorary doctorates, including one from Oxford, but had never received one earned degree beyond high school. Without an earned degree, she would have been barred from teaching in public schools and disheartened by the classified ads in The Chronicle of Higher Education, which demand an earned doctorate as a prerequisite for academic positions in colleges and universities . . . she would have been unable even now to use much of her life experience toward a doctorate. But today she could at least get a head start on an undergraduate degree." 49/

Today, over fifteen years after the death of Eleanor Roosevelt, the possibility of earning academic credit for experiential learning has grown substantially. This growth seems to be related to several factors:

> The realization that too sharp a distinction has been made between life and institutionalized learning. A general dissatisfaction with the educational product at some institutions has led to a broadened provision for work experience within the curriculum.

> In recent years the range of subjects taught in college has expanded. Concomitantly, large numbers of community colleges have opened and have provided occupational and paraprofessional subjects, some through apprenticeships and some which give credit for other experiential learning.
>
> Concern for affective learning has been in evidence during the past decade, and learning activities in this area have usually included experiential components.
>
> Since many colleges have become more serious about serving an older population, it has become apparent that some pre-institutional activities are quite similar to in-college programs. The question has followed as to why some of these activities receive credit while others do not.
>
> The sociopolitical climate, with its strong emphasis on egalitarianism, has contributed to a growing demand for academic recognition for appropriate prior learning activity. 50/

These developments are more continuous with our past than they might at first glimpse seem to be.

Even while the university began to evolve prior to the twelfth century, the craft guilds of Europe's emerging cities were developing other, more experience-based, modes of teaching/learning.

In nineteenth-century America, the needs of the times began to force higher education to accommodate more practical pursuits within the curriculum. What had been a classical liberal arts curriculum, began to change. The occurrence which may be said to have bridged the gap between experientially based learning and the university tradition was the "Land Grant College Act" of 1862. This legislation provided funding to states to stimulate education in engineering, agriculture, and related technical and applied areas. Johns Hopkins Medical School pioneered an approach to medical education emphasizing a practical application of knowledge in 1876. Before that time, even medical schools reflected a deductive "book learning" approach.

One of the more important elements in making a place for experiential learning within formal education has been the Commission on Accreditation of Service Experiences (CASE), now known as the Commission on Educational Credit. Beginning in 1945, CASE evaluated training provided by the military services and recommended specific credit equivalencies in a "guide" published for educational institutions. A newer program which accomplishes the same type of objective through assessing programs sponsored by organizations

whose primary purpose is not education is known as the "Project on Non-Collegiate Sponsored Instruction. 51/,52/ The Consortium of the California State University and Colleges has recently entered into an agreement with the American Council on Education to serve as the California office for the Project.

Examination programs have been popular means of receiving academic credit. A recent survey of over 1,500 institutions found that 81 percent granted credit on the basis of some kind of examination.

> Among the institutions that grant credit . . . 8.4 percent use ACT [American College Testing Service], 78.4 percent use CLEP [College Level Examination Program], 4.3 percent use the New York Regents College Proficiency Examination Program (CPEP), 38.7 percent use individual department examinations, and 26 percent use some other form of evaluation. 53/

Beginning in 1974 several colleges and universities joined with the Educational Testing Service to form the Cooperative Assessment of Experiential Learning (CAEL) Assembly. This organization is now in the process of change:

1. CAEL began with sole concern for improving the art of assessment of experiential learning. CAEL II is committed as well as to fostering improved experiential learning opportunities.

2. CAEL began as a transitory project. It is becoming an ongoing organization to further experiential learning and its valid and reliable assessment.

3. CAEL II will be a consortium of institutions, not a professional association, but plans are being prepared for its having a category of individual members with privileges complementary to those of institutional members.

4. CAEL began as a foundation-financed endeavor. It will continue via support from multiple sources. 54/

CAEL has been perhaps the leading proponent of experiential learning for academic credit through its various reports that deal with developing assessment procedures and educating administrators and faculty members. 55/

In 1974 the Western Association of Schools and Colleges issued guidelines to help institutions clarify their policies regarding credit for prior learning in undergraduate programs:

> . . . demonstrable learning, based on experiences other than those that occur in an academic setting, may be edu-

cationally creditable, and any appropriate past learning from experience can be used to undergird or supplement present and future learning beyond the secondary school . . . the Commission supports awarding credit for prior learning on the basis of eight guidelines. These include: that the student applying for credit at an institution is matriculated at that institution, and that the past learning can be shown to be relevant to the student's stated educational objectives; that the evaluation of such learning is performed by a faculty member at that institution who is competent in the area being evaluated; that the student provides evidence of the prior learning and that the evaluator provides a written evaluation of the evidence (both to be placed in the student's permanent file); that the review and final approval of documentation for credit, as well as the amount of credit given, is performed by a panel of full-time faculty; that the student completed thirty semester units at the institution awarding the credit; that credit for prior learning meets the academic standards of the institution; that fees are charged in accordance with the institution's investment of time and resources; and that all such policies and procedures are described in the official publication of the institution.

The Commission adds, in its definition of terms, that learning must be demonstrable in the sense that a student can present evidence of learning. The kinds of evidence are numerous and might include written and oral exams, tapes, projects, demonstrations, and performances in a form subject to analysis. The institution has a responsibility to make clear to the student and the accrediting agency the means by which competencies can be acceptably demonstrated. 56/

Another type of linkage between an element of BIGM and postsecondary education is illustrated in the Association for Continuing Education. 57/ This is a nonprofit corporation formed by representatives of business and industry and several educational institutions in the greater San Francisco Bay Area to meet a variety of employee training needs. ACE offers a broad range of programming through the Stanford Instructional Television Network. Courses lead to graduate degrees from Golden Gate University or San Jose State University. Undergraduate work is provided by the College of Notre Dame. ACE also offers its own management and supervisory training programs and related courses for no academic credit.

All courses of instruction originate from Stanford University and are broadcast to students where they work. Students receive instruction by television, but otherwise

participate in their courses in the same manner as on-campus students. This is accomplished through a two-way audio system which links the students with each other, and with the instructor, so they may interact with one another while the course is in progress.

Courses are normally scheduled from 7:00 - 8:00 a.m., 12:00 (N) - 1:30 p.m., and from 5:00 - 7:00 p.m., Monday through Friday over four channels in the Instructional Television Fixed Service Band. Special receiving classrooms at company locations are normally reserved for students' participation in televised courses. A daily courier service provides for the distribution of course materials and exams. 58/

In ACE's first year of operation there were 1,365 students enrolled in 24 courses. Five years later enrollment had grown to 3,672 students in 79 different courses. 59/

VI. Contractual Relationships Between Postsecondary Institutions and "Educational Brokers"

In recent years, private firms have begun to operate as appendages of postsecondary education institutions. These "educational brokers" provide services which range from marketing existing institutional programs, development of new programs, student recruitment, and faculty selection, to the actual administration of the programs as a sort of "franchise" of an institution. Often the brokers have particular expertise or a special entre to a particular student market, for example, military personnel or public school teachers. These educational brokerage firms usually represent several different institutions, sometimes both California and out-of-state institutions. Most of the programs are degree oriented, most often at the graduate level. Firms known to operate in California include: Rockport Management Corporation, the Institute for Professional Development, Center for Continuing Education, the Continuing Education Corporation, Academic Overtures Incorporated, Modulearn Corporation, the Foundation for Educational Services, External Degree services, and West Bristow Consultants.

An industry source estimates that at least two of the firms have gross incomes which run to several million dollars per year. The Senior Commission of the Western Association of Schools and Colleges (WASC) has become concerned about the quality of some programs offered through educational brokers. At the Commission's June 1976 meeting, a Committee on Contract Education was appointed to examine all existing and proposed programs and contracts and charged with the responsibility to make recommendations concerning existing Commission policy on contractual relationships.

The Commission reported on the brokering phenomenon and sponsored a statewide conference in May 1977, as described in Educational Brokering in California - Part of a Series of Reports on Lifelong Learning.

VII. Summary

Preliminary examination of the educational activities of business, industry, government, and the military (BIGM) provides rather clear evidence of an extensive array and range of efforts, and of considerable financial investment. Much that is being offered through course work and services by institutions of postsecondary education is also being provided through BIGM training activities. There also are areas of cooperation between BIGM and postsecondary education that are just beginning to gain wide recognition. For example, a growing number of external degree programs take into account the student's occupational activity; efforts to promote the evaluation of experiential learning for academic credit are increasing. These are but two of a variety of factors which seem to be bringing postsecondary education institutions and BIGM closer together.

BIGM commitment to educational activity on the national level is reflected in an average annual expenditure of over $160 per employee for this purpose, and in the development of educational facilities by over one-half the nation's large companies. Almost $17 million in tuition aid was provided to employees in a recent year. In California, companies provided training to employees ranging from an annual average of a little over eleven hours to secretarial and clerical employees, to over forty-one hours per year for managers. Almost two-thirds of these firms utilized videotape/closed circuit television in their training programs. Innumerable firms utilize audiotapes and other self-teaching devices as part of their training.

There are almost 1.5 million employees of federal, State, or local government in California. Over a third of the federal employees take part in training activities at a cost of about $10.5 million per year. The number of employees of the State of California who take part in training exceeds two hundred thousand per year, and the State provides about $1 million annually to support employee education in outside organizations.

No composite figures on local government educational activity in California currently exist. However, several factors taken together imply heavy educational activity. These factors include: the existence of twelve Regional Training Centers located throughout the State which serve local government and which are financed solely through tuition generated through training programs; the newly developed Municipal Training Service of the California League of

Cities, which serves as a clearinghouse, consultant, and provider of training programs; and the participation of local government personnel in U.S. Civil Service Training Center programs. A high level of activity in the State may also be inferred from a national study which found that over 90 percent of the cities of 10,000 population or more in the western states had active training programs.

There is variety in the educational programming offered in business, industry, and government, but also a great deal of overlap. The focus of their respective efforts can be summarized in the following broad categories:

- Management education
- Interpersonal relations education
- Supervisory skills education and training
- Specific skills training (e.g., business machines, audio-visual equipment, bookkeeping, etc.)
- Organizational development education (e.g., team building, management by objectives, job enrichment, etc.)
- Orientation education (to an industry, company, culture, location, etc.)
- Personal development education (not directly job-related, sometimes offered by the organization or supported at outside organizations)

The armed forces invest heavily in training educational activity. In 1976, the amount budgeted by the Department of Defense was almost $7 billion. The two broad categories of postsecondary education within the military are (1) professional training which is directly related to performance as a member of the armed forces, and (2) voluntary education which allows the individual to pursue personally determined objectives. About $52 million per year is invested in voluntary education programs around the world. Several innovative programs which have important implications for this study have been developed since World War II. In 1945 the Commission on the Accreditation of Service Experiences (since succeeded by the Commission on Education Credit) began to produce an annual "guide" for educational institutions which recommended the award of academic credit for certain service-provided training. This program was the precursor of another effort of the American Council on Education, the Project on Non-Collegiate Sponsored Instruction (a joint project with the Consortium of the California State University and Colleges), which consists of the assessment and recommendations for

the award of academic credit for educational activities within business, industry, and government. 60/ In 1973, the Servicemen's Opportunity College (SOC) network was begun. This association of 250 colleges and universities agreed to work together with the military to meet the unique needs of a highly mobile, sometimes physically isolated military student. This program emphasizes flexible administrative procedures, convenient and appropriate counseling, and nontraditional learning methodologies. The SOC was developed to allow military personnel to pull together a degree program of what otherwise would be only diverse educational experiences, some acquired at different institutions, to earn an associate or bachelor's degree. The Navy's Program for Afloat College Education (PACE), in which instructors from postsecondary educational institutions are actually teaching on ships at sea, is another example of an attempt to meet the educational needs of military personnel through a nontraditional approach.

The Army and Air Force do not have composite information on statewide training activity, but the Navy does. From the data available it is apparent that State institutions are actively involved in serving Navy personnel on Navy Installations throughout California. About twenty publicly supported institutions and half that many independent institutions offer on-base educational programs.

Two other developments are suggestive of a widespread demand for academic credit and educational opportunity. These include the growth of testing as a means for granting credit, now an accepted procedure at about 80 percent of the country's institutions of postsecondary education, and the emergence of organizations which market educational programs for postsecondary institutions, mostly in a part-time, external degree format. This latter instance has given rise to concern about the quality and control of programs operated through contractual relationships between accredited and unaccredited organizations. The Senior Commission of the Western Association of Schools and Colleges has established a committee to review all existing and proposed programs and contracts and has urged institutions not to enter into new relationships with "educational brokers." An undetermined number of these educational brokers operate in California. Of the nine firms known to the Postsecondary Education Commission's staff, at least two are said to have gross incomes of several million dollars. The programs they operate are usually graduate programs, generally in such fields as education, business, and management. Usually the broker represents several different institutions, some of which are located in other states. The services provided range from developing and marketing programs to operating as a sort of "franchise" of an institution.

FINDINGS

This preliminary investigation of the educational objectives and operations of BIGM by Commission staff has found convincing evidence that:

1. More Californians are actively engaged in educational activity within the context of BIGM now, and will continue to be in the future, than within the confines of institutions of postsecondary education.

2. There is considerable overlap between BIGM and postsecondary educational institutions in subject matter taught, clienteles served, and methodologies utilized.

3. Data descriptive of BIGM educational activity within California are not readily available, nor easily translated into formats comparable with information collected by the segments of California postsecondary education.

4. The current educational climate--which includes movements to "free up" the system and allow for meeting students' objectives through external degrees, credit for knowledge gained through nontraditional means, field work and the like--appears congenial to the exploration of more direct ties between BIGM and postsecondary education.

5. In a time of limited public resources and diverse public demands, the potential sources of BIGM have not been given careful enough consideration and the Commission should further explore this potential in the course of fulfilling its mandate for statewide planning and coordination.

POLICY ISSUES

Out of these preliminary findings several policy issues may be developed which seem appropriate for Commission review and resolution in the final report.

1. Should academic credit for BIGM sponsored educational programs be encouraged and facilitated?

   Does BIGM provide educational programming which serves, or could serve, a broad societal need, or do its benefits accrue narrowly to individuals and specific organizations?

   If BIGM training provides certain knowledge and skills that are relevant to degree programs, should

credit be granted to an individual? By what organization and by what means?

What questions of quality control would need to be addressed if BIGM were to assume a role in generating academic credit?

2. Should tax credits be provided to BIGM to encourage its involvement in the educational process?

   Would tax credits be appropriate only in an expanded, academic-credit-granting role, or is the current benefit of BIGM training to society worthy of such encouragement?

   What would be the potential impact of such tax credits on the State's economy?

3. Is it a wise and appropriate use of State resources for publicly supported institutions to operate outside of the boundaries of California?

   What responsibility does the State have to provide postsecondary educational services to California residents who are out of the State temporarily, or on a long-term basis?

   Should Community Colleges provide services to areas other than their immediate community and to non-district State territory?

4. Would a planning group of BIGM and postsecondary educational institutions lead to the more efficient utilization of available resources and better service to students?

   Would the recently created Regional Adult and Vocational Education Councils, or some modification of this structure, provide a suitable planning group model?

   Should the Commission make a concerted effort to involve BIGM more directly in the planning process for the State's postsecondary educational enterprise?

5. What are the implications of the development of educational brokerage firms for State policy?

   Do the many part-time, off-campus degree programs offered through brokers for California independent and out-of-state institutions demonstrate a need

which is not being addressed by the senior segments of publicly supported postsecondary education?

Should some policy be developed with regard to the operation of out-of-state institutions within California? Several of these institutions are publicly supported by their home states.

Should some means of quality control and review of broker operations be developed to facilitate consumer protection and to promote statewide planning with regard to program planning?

Do the marketing, program-development, and administrative methods of educational brokers provide a model which could prove useful for publicly supported postsecondary education?

In order to deal with these suggested policy issues, it will be necessary to develop a data base which describes the educational objectives and amount of training activity which characterizes BIGM. Additionally, the recently enacted AB 4325 specifies that

> The Commission . . . shall develop a mechanism to maintain a general inventory of the . . . (Sec. 3(b) . . . general level and type of nondegree credit and noncredit activities within . . . [the] formal educational offerings of business, government, and other noneducational organizations. (Sec. 3(a)).

Therefore, consideration must be given to the means of securing information on BIGM educational activities in an ongoing fashion. This should not prove too difficult for government and the military (See Figure 5), but it presents a real problem with business and industry. A major problem is drawing a representative sample. The diversity in this area, the great numbers of companies, the centrality of the profit motive and lack of apparent "pay-off" to companies for continued, and perhaps even initial participation in a Commission data-gathering effort, also present difficulties. If data were only gathered every two to three years, this would alleviate the problem somewhat. Perhaps the best method to sample what is taking place in business and industry is through a survey of members of the American Society of Training and Development. This organization is made up of professional training people from BIGM. There are eight different chapters located throughout California. By surveying this group and asking them to make judgments about training in their geographic area, and for the State as a whole, the Commission should be able to obtain an acceptable set of proxy data reasonably representative of the State. By also attempting to survey the same business and industrial firms which participated in the 1969

Automobile Club Study, some "hard" data could also be assembled to describe the programs of business and industry.

The potential sources for obtaining other needed information are listed in Figure 5.

DH:#30/1-40

Figure 5

Areas of Study and Potential Sources of Information

	ASTD Chapter Survey	Survey 1969 AMA Sample	Survey Military	Survey Regional Training Centers	Obtain Data from Calif. League of Cities	Obtain Data, Personnel Development Division	Obtain Data, U.S. Civil Service Commission	Obtain Data from Educational Brokers	Work With WASC in Review of Brokers
Business, Industry, Government	x x	x							
Federal	x						x		
State	x					x	x		
Local	x			x	x		x		
Military	x		x*						
Air Force	x		x						
Army	x		x						
Navy	x		x						
Educational Brokers								x	x

*Consolidated records exist for educational activity in the Navy in California, individual installations must be surveyed for the Air Force and the Army.

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Training and Development Survey with Primary Focus on California, June 1969, Automobile Club of Southern California, Los Angeles, California.

Trivett, David A.: Academic Credit for Prior Off Campus Learning, ERIC/Higher Education Research Report, November 2, 1975, American Association for Higher Education.

Van Dyne, Larry, "A 'Partnership' is Probed," The Chronicle of Higher Education, October 21, 1974, page 3.

Van Dyne, Larry, "V.A. Would Curb Elba," The Chronicle of Higher Education, November 11, 1974, page 3.

FOOTNOTES

a/ Trade union education and training is not addressed separately here. "As a source for continuing education for (their) members," say Peterson et al. (1978), "labor unions are something of an enigma." They estimate that only some 600,000 union members, or about three percent of the 20,000,000 organized workers in the U.S., are "involved in education and training through four general types of programs." Roughly 500,000 of these are in apprenticeship programs which are operated jointly under contract, by management and labor. Compare estimate in Table 3 (pg. 6) by the Carnegie Commission on Higher Education which shows 100,000 (1970) in union-sponsored instruction, and 600,000 in apprenticeships. In California, some apprenticeship programs are offered via public-supported educational institutions. Some union members apparently receive partial support from their unions for attending college courses. It did not seem feasible for this study, however, to disentangle the overlapping numbers to determine the actual enrollments and dollars directly attributable to labor organizations within this one state.

1/ Toward a Learning Society, page 17.

2/ Drucker: Management.

3/ Toward a Learning Society, page 18.

4/ Ibid., page 27, citing a 1971 USOE document and Diversity by Design, report of a study by the Commission on Non-Traditional Study.

5/ Peterfreund: Education in Industry--Today and in the Future, 1975; page 32.

6/ Ibid., page 32.

7/ Ibid., page 40.

8/ Training and Development Survey with Primary Emphasis on California; Automobile Club of Southern California; 1969, computed from data on page 19.

9/ Ibid., from Table V on page 5. This means .4 trainers per 100 employees.

10/ O'Meara, J. Roger: Combatting Knowledge Obsolescence; 1970.

11/ Report on Educational Research, page 9.

12/ Todays Manager, page 22.

13/ Peterson, et. al.: Postsecondary Alternatives to Meet the Educational Needs of California Adults, page 31.

14/ This estimate is probably too high. It is based upon the ratio of .40 trainers to every 100 employees found in the 1969 Automobile Club Study. Salner then projected this same ratio to the total number of employed civilians in the State's labor force. The 1969 study only studied large firms; many in the labor force undoubtedly are employed in small firms with no full-time training staff.

15/ Salner, page 137. See footnote 14, above.

16/ Bradshaw, pages 1-3.

California's characteristics include leadership among states and nations in several indices of industrial development. First, the state has the world's greatest concentration of high-technology industry, depending heavily on advanced scientific theory, and involving major research and development projects. The technology is not concentrated solely in aerospace and electronics firms, but is dispersed throughout the entire economic and social system. Second, California has more workers in service-sector industries--such as communications, transportation, finance, sales, and the professions--than any other industrial state in the nation. Third, the growth of new specialized technologies has led to increased interdependence within the society; relations between firms, groups, political bodies, and individuals have become more intense. Fourth, the State is characterized by rapid change and innovation. California is often one of the nation's first states to experience new social problems and to develop new responses. Finally, advanced industrial development has expanded the need for information and knowledge, so that California leads the nation in education and in the creation of knowledge. In short, these five characteristics form a pattern identified as advanced industrialism . . .. (page 1.)

17/ Salner, 1975, cites Employment Development Department figures for total civilian employment as being 8,289,000. Facts and Figures on Government Finance, 1975, provides the numbers of employees for each of the three levels of government based on 1973 employment patterns. California Statistical Abstract,

1975, shows total California civilian employment to be 8,177,000 in 1975. Therefore, the 1973 employment levels are probably reasonably accurate for 1976 in the general ratio cited above.

18/ Facts and Figures on Government and Finance. Figure derived from data on page 26; based upon 1973 data.

19/ Ibid. page 26.

20/ Strengthening the System, 1973.

21/ Salner, page 139.

22/ Personnel Management and Effective Government, 1976, page 74.

23/ This is based on data compiled for FY 1972, in Salner, page 140.

24/ Ibid., page 140.

25/ Information provided by Susan Wenjum, San Francisco Regional Training Center, U.S. Civil Service Commission.

26/ San Francisco Regional Training Center Calendar, FY 1976.

27/ Personnel Development Center Catalog, 76-77.

28 Annual Reports of In and Out Service Training, 1976. Not all agencies filed reports; therefore, the number of employees and the amount of money invested is understated. The data reported pertain to FY 1974-75.

29/ Salner, page 140.

30/ Almost 60 percent of these cities participated in the survey, Brown, page 1.

31/

	Number of Cities		
	Surveyed	Responding	Percent
Geographic region			
Northeast	712	333	47
North Central	675	391	58
South	543	339	62
West.	371	286	77

Geographic regions: Northeast--the New England and Mid-Atlantic Divisions, which include the states of Connecticut, Maine,

Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont; North Central--the East and West North Central Divisions, which include the states of Illinois, Indiana, Iowa, Kansas, Michigan, Minne-sota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin; South--the South Atlantic and West South Central Divisions, which include the states of Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia and West Virginia, plus the District of Columbia; West--the Mountain and Pacific Coast Divisions, which include the states of Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

Source: Janka, page 186.

32/ Cities offering training by geographic region:

	Number	Percentage
Northeast	141	42
North Central	245	63
South	226	67
West.	261	91

Source: Janka, page 186.

33/ Brown, page 2.

34/ Report and Recommendations for the California Municipal Training Service, 1973.

35/ Municipal Training Service Brochure.

36/ The Servicemen's Opportunity College, page 7

37/ Military Manpower Training Report for FY 1976, page XI-1.

38/ Taskforce on State, Institutional and Federal Responsibilities in Providing Postsecondary Educational Opportunity to Service Personnel, Final Report (Draft), page 1.

39/ Military Manpower Training Report for FY 1976, percentages are derived from data on pages 1X-4 to 1X-10.

40/ The Servicemen's Opportunity College, page 8.

41/ Ibid., pages 17-19 and 45-47.

42/ Task Force on State, Institutional and Federal Responsibilities in Providing Postsecondary Educational Opportunity to Service Personnel.

43/ Off-Duty Education Catalog.

44/ Ibid.

45/ Ibid.

46/ The Navy--A Campus for Achievement.

47/ The Servicemen's Opportunity College, page 10, and Taskforce on State, Institutional and Federal Responsibilities in Providing Postsecondary Educational Opportunity to Service Personnel, Final Report (Draft), page 15.

48/ Smith in Keeton and Associates, pages ix-xiv.

49/ Ibid., page x.

50/ Ibid., page xi.

51/ The Project on Noncollegiate-Sponsored Instruction seeks to gain academic recognition for course work taken outside colleges and universities. Sponsored jointly by the American Council on Education and the New York State Board of Regents, its focus is on training offered by organizations whose primary purpose is not education. The principal sponsors are government agencies, professional and voluntary associations, labor unions, and business corporations which offer courses to their employees or members. The Project represents a new effort to relate formal nontraditional education to collegiate programs. A major aim of the Project is to lay the groundwork for the establishment of a continuing and uniform system for the assessment of noncollegiate-sponsored courses in terms of college credit. From: Project on Noncollegiate-Sponsored Instruction.

52/ McGarraghy, page 8-11.

53/ Trivett, page 31.

54/ CAEL Newsletter.

55/ CAEL Publications include such titles as Current Practices in the Assessment of Experiential Learning; The Learning and Assessment of Interpersonal Skills: Guidelines for Administrator and Faculty; A Guide for Assessing Prior Experience Through Portfolios; Evaluation and Expert Judgment; An Individualized Competence-Based Assessment Model.

56/ Kirkwood in Keeton, pages 156-157, citing a WASC document.

57/ ACE began operating in 1970; membership currently includes:

Aeronutronic-Ford
American Micro-Systems
Ampex Corporation
Argo Systems, Inc.
Avantek, Inc.
Barry Research
Bechtel Corporation
John Blume and Associates
College of Notre Dame
Diversified Electronics
ESL, Inc.
Fairchild Corporation
Fluor-Utah
Genesys Systems, Inc.
Golden Gate University
GTE-Sylvania
Hewlett-Package Corporation
Hydrocomp, Inc.
IBM Corporation
ISS/Sperry-Univac
Kennedy Engineers
Lawrence Livermore Laboratory
Lockheed Missile and Space Co.
NASA/AMES Research Center
National Semiconductor
Pacific Gas and Electric Co.
Quantic Industries Inc.
San Jose State University
Sandia Laboratories
Singer Simulation Products
Standard Oil of California
Stanford Research Institute
Stanford University
Systems Control, Inc.
Telecommunications Association
Teledyne Microwave
Vidar Corporation
Watkins-Johnson
Xerox Research Center

58/ ACE Annual Report, June 30, 1975, page 1.

59/ Ibid., page 4.

60/ American Council on Education: The National Guide to Credit Recommendations for Non-Collegiate Courses; Washington, D.C.; 1978.